

SECTION 09 51 00 (09510) - ACOUSTIC CEILINGS

This Section is based on PrivacyShield® High CAC Foam Soundproofing Ceiling Tile.

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. Related Sections:

1. Section 09 20 00, Gypsum Board, Framing & Accessories
2. Section 09 21 16, Gypsum Board Assemblies.
3. Section 09 53 23, Metal Acoustical Ceiling Suspension Assemblies.
4. Section 09 54 00, Specialty Ceilings.
5. Section 09 58 00, Integrated Ceiling Assemblies.
6. Section 13 48 00, Sound, Vibration, and Seismic Control.
7. Section 23 50 00, Central Heating Equipment.
8. Section 26 50 00, Lighting.

- B. Furnish and install all acoustical ceiling tiles and associated grid and suspension systems as shown on the drawings, and specified herein, or as required to complete the work.
- C. Related Documents: This section applies to drawings and general provisions of the subcontract. Review these documents for coordination with additional requirements and information that apply to work under this Section. Cross-reference approved supplementary manufacturers' ceiling grid systems and required installation accessories including, but not limited to wire hangers, fasteners, main runners, cross tees and wall angle moldings, as applicable.

1.2 REFERENCES

A. American Society for Testing and Materials (ASTM):

1. ASTM C423: Sound Absorption by the Reverberation Room Method.
2. ASTM C635: Standard Specification for the Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Drop-In Ceiling Tiles.
3. ASTM C636/C636M: Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-In Tiles.
4. ASTM E84: Standard Test Method for Surface Burning Characteristics of Building Materials.
5. ASTM E795: Practice for Mounting Test Specimens during Sound Absorption Tests.
6. ASTM E1264: Standard Classification for Acoustical Ceiling Products.
7. ASTM E1414: Standard Test Method for Airborne Sound Attenuation between Rooms Sharing a Common Ceiling Plenum.

1.3 SYSTEM DESCRIPTION

A. Performance Requirements

1. Provide ceiling tile system designed and tested to provide a Class A flame spread rating when tested in accordance with ASTM E84, unless otherwise specified.



2. Provide ceiling tile system, which has been manufactured, fabricated and installed to provide Noise Reduction Coefficient (NRC) rating as follows, in accordance with ASTM C423:
 - a. Noise Reduction Coefficient {NRC} 0.85 Type-A Mounting
 - b. Ceiling Attenuation Class {CAC} 45 (2'x2')
 - c. Fire Class per ASTM E 84: Class A

1.4 SUBMITTALS

- B. Product Data: Manufacturer's technical data for each acoustical ceiling tile and suspension system required.
- C. Selection and Verification Samples: One (1) full-size 23 3/4" inch by 23 3/4" inch (603mm x 603mm) ceiling tile samples for color selection and/or verification.
- D. Shop Drawings: Layout and details of ceiling tiles. Show locations of items which are to be coordinated with, or supported by the ceilings.
- E. Closeout Submittals:
 1. Operating and Maintenance Manual, including cleaning and maintenance instructions.
 2. Extra Material for Owner's stock.
 3. Safety Data Sheets (SDS).

1.5 QUALITY ASSURANCE

- F. Minimum 5 years of experience in manufacturing acoustical products similar in complexity of the types specified herein.
- G. Single-Source Responsibility: Acoustical Solutions to provide ceiling tiles (only).
- H. Installer Qualifications: Acceptable to the manufacturer of the acoustical products being installed. Utilize an installer having demonstrated experience on projects of similar size and complexity.
- I. Mock-Up: Provide a mock-up for evaluation of installed appearance.
 1. Install acoustical products in areas designated by proper authority.
 2. Do not proceed with remaining work until proper authority approves workmanship and appearance.
 3. Approved mock-up may remain as part of the work.
- J. Surface Burning Characteristics
 1. Tested in accordance to ASTM E84
 2. Fire Class A
 - a. Flame Spread Index <25
 - b. Smoke Developed Index <50

1.6 Delivery, Storage, and Handling



- K. Delivery: Deliver material in the manufacturer's original, unopened, undamaged containers with identification labels intact.
- L. Provide labels indicating Acoustical Solutions brand name, style, size and thickness.
- M. Storage and Protection: Comply with manufacturer's recommendations. Store materials indoors and protected from exposure to harmful environmental conditions and at temperature and humidity conditions recommended by the manufacturer.

1.7 Project Conditions

N. Environmental Limitations

1. Install acoustic ceiling tiles only in conditions that are within the manufacturer's published limits for temperature and humidity.
2. Areas receiving ceiling tiles should be free of construction debris and dust.
3. Mechanical, sprinkler and electrical trades shall have completed their work above the ceiling structure prior to commencement of the ceiling tile installation.

1.8 Maintenance

- O. Extra Materials: Provide a minimum of 1 box or 2%, whichever is larger, of additional materials if required for use by owner or the building maintenance and repair.
- P. Provide new unopened cartons of extra materials, packaged with protective covering for storage and identified with appropriate labels.

PART 2 - PRODUCTS

2.1 MANUFACTURER

Q. ACOUSTICAL SOLUTIONS

1. Acoustical Solution 2420 Grenoble Road, Richmond, VA 2329 | PH: 800-782-5742 | AcousticalSolutions.com

2.2 MATERIALS

- R. PrivacyShield® High CAC Foam Soundproofing Ceiling Tile: Ceiling tiles manufactured from 100 percent open-cell melamine foam with the following characteristics:
 1. Fire Resistance: ASTM E84, Class A
 2. NRC: 0.85 per ASTM C423 Type A mounting
 3. CAC: 45 for 23 3/4" x 23 3/4" ceiling tiles
 4. Foam Density: Light Grey 0.56 lbs./ft³ +/- 0.09 lbs./ft³
White 0.47lbs./ft³ +/- 0.13lbs./ft³
 5. Service Temperature: -40 ° F to 350 ° F



6. Size: Nominal: 24" x 24"; Actual: 23 3/4" x 23 3/4" (603 mm x 603 mm).
7. Tile Thickness: Nominal 2 1/8" (54 mm) total thickness including 5/16" Gypsum backerboard
8. Manufacturers Standard Colors: Natural White, Light Grey, or Custom
9. Edges: Square, Reveal for 15/16" grid, Beveled
10. Mounting: Lay-in ceiling 15/16" T-bar grid system

A. Product Substitutions

1. Not permitted

B. Accessories

1. Grid and Suspension Systems

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine suspension assemblies, with installer present, for compliance with requirements specified in this and other applicable Sections affecting ceiling tile installation and with requirements for installation tolerances and other conditions affecting performance of acoustic ceiling tile assemblies

3.2 INSTALLATION

- A. Do not begin installation until materials sufficient to complete an entire room are received and prepared for installation
- B. Symmetrically locate grid layout in each space. Coordinate work with other trades so that lighting fixtures, grilles and other ceiling fixtures work with grid layout.
- C. Install materials in accordance with manufacturer's printed instructions and to comply with governing regulations, fire resistance rating requirements as indicated and industry standards applicable to the work.
- D. Take care not to damage or mark the tiles; wear clean cotton or canvas gloves and avoid the use of latex gloves.

3.2 CLEANING

- A. Clean exposed surfaces of acoustical ceilings, trim, edge moldings and suspension members to comply with manufacturer's instructions for cleaning.
- B. Touch up any minor finish damage.
- C. Remove and replace work that cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

3.3 PROTECTION

- A. Protect installed products until completion of project.

